



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/010,009	11/09/2001	Henry J. Halverson	102167-200	5016

7590

05/05/2004

ALBERTA A. VITALE  
INTELLECTUAL PROPERTY LAW SECTION  
WIGGIN & DANA LLP  
ONE CENTURY TOWER  
NEW HAVEN, CT 06508-1832

EXAMINER
----------

BERGIN, JAMES S

ART UNIT	PAPER NUMBER
----------	--------------

3641

DATE MAILED: 05/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

## Application No.

10/010,009

## Applicant(s)

HALVERSON, HENRY J.

## Examiner

James S. Bergin

## Art Unit

3641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 04 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 24-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 24-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 24, 25, 27 and 28** are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis et al. (US 4,517,898 A) in view of either Beal (US 5,847,313 A) and/or Beal (US 6,371,029 B1) and/or Vaughn et al. (US 6,546, 875 B2).

Davis et al. disclose a bullet comprising a jacket 23 having a closed end forming a nose of the bullet (figure 5), a first core 34 having a front surface conforming to an interior surface of the nose; and a second core 36 contained within the jacket 23 aft of the first core 34, the second core 36 having a rear surface disposed at a rear end of the bullet. Davis et al. states that the first core 34 *"is cored with a light weight material such as plastic or aluminum while the cylindrical body portion 36 is cored with any suitable heavy material such as lead or the like, the center of gravity 26 can be displaced rearward"* (column 5, lines 42 – 63).

Beal '313 discloses a jacketed bullet comprising a copper jacket 47 (column 7, line 9), a tin first core 51 (column 10, line 52), and a tungsten second core 12 containing 50% or more by weight of tungsten powder (column 6, line 21).

Art Unit: 3641

Beal '029 discloses a jacket bullet comprising a copper jacket 14 (column 4, line 40), a tin first core 32 (column 5, line 55), and a tungsten second core (column 8, line 43).

Vaughn et al. disclose a jacketed bullet comprising a copper alloy jacket 15 (line 7, paragraph 28), a monolithic tin first core 10 (line 6 of paragraph 28), and a tungsten second core 13 containing 75% tungsten (line 10 of paragraph 28).

Regarding **claim 24**, Davis et al. does not specifically disclose the first core consists of at least 50 weight percent tin, and the second core consists of at least 50 weight percent tungsten.

In view of the combined teachings of Beal '313 and/or Beal '029 and/or Vaughn et al.), it would have been obvious to one of ordinary skill in the art at the time that the invention was made, to select tungsten as the heavy material of the Davis et al. second core 36 and tin as the lightweight material of the Davis et al. first core 34, because these materials would conform to the required densities and properties required by the Davis et al. bullet to enable its center of gravity to be displaced rearward.

It would have been further obvious to one of ordinary skill in the art at the time that the invention was made to manufacture the Davis et al. bullet having 50 weight percent tin for first core and 50 weight percent tungsten for the second core since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Art Unit: 3641

Regarding **claim 25**, as modified above, the Davis et al. bullet will inherently perform the function of claim 25.

Regarding **claim 27**, Davis et al. do not specifically disclose that the bullet has a weight of 120-125 grains. It would have been obvious to one having ordinary skill in the art at the time that the invention was made to vary the weight of the bullet to achieve an optimum result, note In re Aller, USPQ 233 (CCPA 1955) and In re Reese, 129 USPQ 402 (CCPA 1961).

Regarding **claim 28**, the first core 34 of the Davis et al. bullet has a rear surface conforming to a front surface of the second core 36 (see figure 5).

3. **Claim 26** is rejected under 35 U.S.C. 103(a) as being unpatentable over Davis et al. (US 4,517,898 A) in view of either Beal (US 5,847,313 A) and/or Beal (US 6,371,029 B1) and/or Vaughn et al. (US 6,546, 875 B2) as applied to claim 24 above, and further in view of Mravic et al. (US 5,399,187 A).

Mravic et al. teach that it is old and well known in the art to form a core of a bullet of a tungsten-filled polymer core to form a lead-free bullet to protect the environment.

Regarding **claim 26**, Davis et al. discloses that the jacket 23 can be made from cupronickel but does not disclose that it can be made from at least 50 weight percent copper. Furthermore, Davis et al. does not disclose that the first core comprises at least 80 weight percent tin, the second core at least 95 weight percent tungsten filled polymer and a jacket comprising at least 50 weight percent copper.

Beal '313 and/or Beal '029 and/or Vaughn et al. disclose a bullet jackets comprising copper.

Art Unit: 3641

In view of the combined teachings of Mravic et al, and/or Beal '313 and/or Beal '029 and/or Vaughn et al., it would have been obvious to one of ordinary skill in the art at the time that the invention was made, to select tungsten filled polymer as the heavy material of the Davis et al. second core 36 and tin as the lightweight material of the Davis et al. first core 34, and the bullet jacket of copper, because these materials would conform to the required densities and properties required by the Davis et al. bullet to enable its center of gravity to be displaced rearward, the bullet would be lead free and environmentally friendly and because copper jacketed bullets are notoriously well known in the prior art to provide a bullet jacket with desirable qualities.

It would have been further obvious to one of ordinary skill in the art at the time that the invention was made to manufacture the Davis et al. bullet having at least 80 weight percent tin for first core, 95 weight percent tungsten filled polymer for the second core, and with a jacket having 50 weight percent copper, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

4. **Claims 25 and 29** are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis et al. (US 4,517,898 A) in view of either Beal (US 5,847,313 A) and/or Beal (US 6,371,029 B1) and/or Vaughn et al. (US 6,546, 875 B2) as applied to claim 24 above, and further in view of PCT WO 97/20185.

If the applicant believes that the bullet of Davis et al. in view of Beal '313 and/or Beal '029 and/or Vaughn et al. does not perform the function of claim 25, then the PCT

Art Unit: 3641

application clearly teaches that it is old and well known in the art to vary the characteristics of a bullet so that it will not defeat level 2 body armor to protect law enforcement agents, note lines 8-20 of age 2 and examples 1, 2 and 3.

In view of the above PCT application, it would have been obvious to one having ordinary skill in the art at the time that the invention was made to vary the characteristics of the modified Davis et al. bullet so that the bullet would not defeat level 2 body armor. The Davis et al. bullet thus modified, would inherently have a first core with a hardness of less than Brinell 10, which would not allow it to penetrate Kevlar.

### ***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

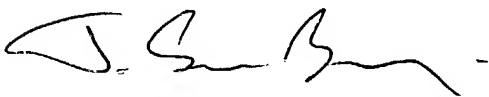
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 3641

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James S. Bergin whose telephone number is 703 308-8549. The examiner can normally be reached on Monday - Wednesday and Friday, 8.30 - 5.30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone can be reached on 703 306-4198. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



James S. Bergin



MICHAEL J. CARONE  
SUPERVISORY PATENT EXAMINER